

Work Order ID 149136

Tuesday, July 19, 2016 2:42:02 PM

149136

Page 1

Item ID: D4635-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Ceiling Panel, LH
 Start Date: 7/12/2016 Start Qty: 4.00 *2.00* ***A*** *2.00* Cust Item ID:
 Required Date: 7/19/2016 Req'd Qty: 4.00 ***A*** *2.00* Customer:
 Reference:

Approvals: Process Plan: DAS 21 Date: JUL 20 2016 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: 9-89 Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4635	<i>FEED. F</i>								<i>Pro - 8</i>
100	HAND FINISHING THERMOFORMING	0.00							DAS 07 9-89
100									
Thermoform	Memo	0.09							
Thermoforming Machine	Cut Blanks								<i>16/07/20</i>
105	Dry Material	0.00							DAS 07 9-89
105									
HandThermo	Memo	0.00							
Hand Finishing Thermoforming	Dry Sheet as per QSI022 POLYCARBONATE								<i>16/07/20</i>

Temp: 245 deg. F
 Time IN: 5:00 PM
 Time OUT: 6:00 AM

JUL 21 2016

Per.....

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>149136</u> Part No. <u>D4635-1</u> NCR No. _____		DISPOSITION Rework ☒ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☒</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☒	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Description Work Order Deviation				Disposition		Completed By DAS 10 9-89 <u>16/08/12</u>																																																																	
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OTHER : _____																																																																							

Work Order ID 149136

Tuesday, July 19, 2016 2:42:02 PM

149136

Page 2

Item ID: D4635-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Fwd Ceiling Panel, LH

Start Date: 7/12/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 7/19/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00

110

Thermoform

Thermoforming Machine

THERMOFORMING MACHINE

Memo

0.28

Thermoform as per Dwg. D4635-1 and Folio FTA147

Dwg. Rev. FEOLFolio Rev. E

NOTE: Check moulds prior to using to ensure proper placement of add-ons.

Visually inspect for proper formation and texture

x 2DAS
07
9-89

14/07/22

130

0.00

130

Thermoform

Thermoforming Machine

HAND FINISHING THERMOFORMING

Memo

1.38

Trim to Finished Dimensions

x 2DAS
07
9-89

14/07/25.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Work Order ID 149136

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149136

Page 3

Item ID: D4635-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Fwd Ceiling Panel, LH
 Start Date: 7/12/2016 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 7/19/2016 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC- Inspect dimensions to drawing	0.00							16
140	Dimensional Inspection								9-89
QC	<i>acc</i> Memo	0.00							16/08/12
Quality Control	<i>8</i> Fill out Inspection Sheet Rev A								
150	QC5- Inspect part completeness to step on W/O	0.00							
150									
QC	<i>248</i> Memo	0.01							
Quality Control									
160	Packaging	0.00							
160									
Packaging	Memo	0.00							
Packaging									

Pf

XQ DAS 27 9-89
 AUG 12 2016

2X DAS 27 9-89
 AUG 12 2016

PPP149092
 PPP149093

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☒

Work Order: <u>149136</u> Part No. <u>D4635-1</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Cross tube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date: _____		Step #: _____		QTY Effective: _____		MRB (QSI042) Approval																			
Description Work Order Deviation				Disposition																					
Update step #140, 150 to QCR + QCR																									
								Completed By DAS 10 9-89																	
								Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																					

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐	OTHER: _____			

149136

Tuesday, July 19, 2016 2:42:02 PM

N9000401 00

Setup Start *NS1*

Stop ***NS2***

Start Date: 7/12/2016 **Start Qty:** 4.00 ***4***

Required Date: 7/19/2016 **Req'd Qty:** 4.00 ***1***

Reference:

Run Start *NR1*

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.07

Quality Control

**DAS
21
9-89**

AUG 15 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : _____									

Picklist Print

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Work Order ID: 149136

149136

Parent Item: D4635-1

D4635-1

Parent Item Name: Fwd Ceiling Panel, LH

Start Date: 7/12/2016

Required Date: 7/19/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev. A New Issue 12/05/07 DL VERIFIED BY:JLM IPP Rev. B
Dwg. Update 12/11/08 DL IPP Rev. C Dwg Update
13/07/09 DL IPP Rev D Dwg Update, Material
Change 13/12/09 DL IPP Rev. E Dwg. Update. 14/01/09 DL
IPP Rev. F Dwg Update 15/01/27 DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.093-F6006-07		Purchased	No			100	sf	380.9000	25.27	101.08			DAS 07 9-89
MI FXS 093-F6006-07									**				
GE PLASTICS LEXAN SHEET (Grey)													

Location

Loc Qty

Loc Code

MAT023

380.9

m129738

380.9

~~25.27~~ 55.28 64

16/08/13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No: _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
				Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
				Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
				Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
				Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
				Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
				Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
				Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
OTHER : _____							

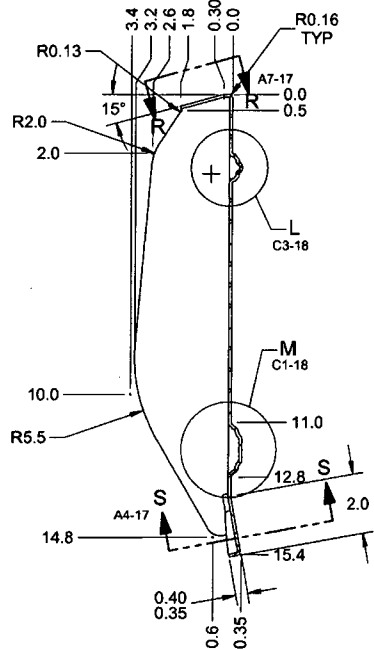
DART AEROSPACE LTD		Work Order: 149136
Description: LH Fwd Ceiling Panel		Part Number: D4635-1
DAS 10 9/89 Inspection Dwg: D4635 Rev: E FS 10/12		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.00	+/-0.030	14.0	✓		T.M	
28.00	+/-0.030	28.0	✓		T.M	
42.00	+/-0.030	42.0	✓		T.M	
55.00	+/-0.030	55.0	✓		T.M	
5.00	+/-0.030	5.0	✓		T.M	
12.6	+/-0.100	12.6	✓		T.M	
18.6	+/-0.100	18.6	✓		T.M	
38.4	+/-0.100	38.4	✓		T.M	
44.4	+/-0.100	44.4	✓		T.M	
1.3	+/-0.100	1.321	✓		CD-L	
7.0	+/-0.100	7.0	✓		T.M	
7.00	+/-0.030	7.0	✓		T.M	
Ø2.03	+0.012/-0.001	2.031	✓		ED-L	
Ø0.191	+0.005/-0.001	0.191	✓		ED-L	
Ø3.50	+0.012/-0.001	3.501	✓		ED-L	
3.300	+/-0.010	3.309	✓		ED-L	
1.650	+/-0.010	1.655	✓		ED-L	
Ø0.129	+0.005/-0.001	0.130	✓		ED-L	
1.300	+/-0.010	1.307	✓		ED-L	
0.650	+/-0.010	0.655	✓		ED-L	
0.35 - 0.40	+/-0.030	0.37	✓		ED-L	
0.30	+/-0.030	0.321	✓		ED-L	
0.50	+/-0.030	0.515	✓		ED-L	

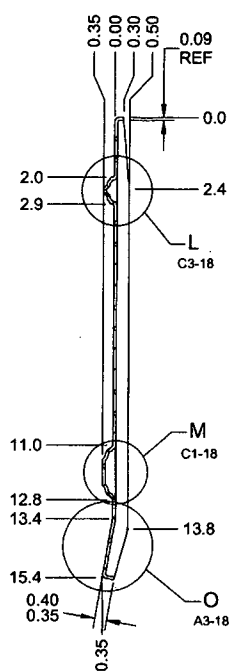
Measured by: DAS 16 Date: 16/08/12		Audited by: DAS 27 Date: AUG 17 2016		Preliminary Approval: Date:	
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Rev	Date	Change	Revised by	Approved
A	14.07.29	New Issue	KJ	



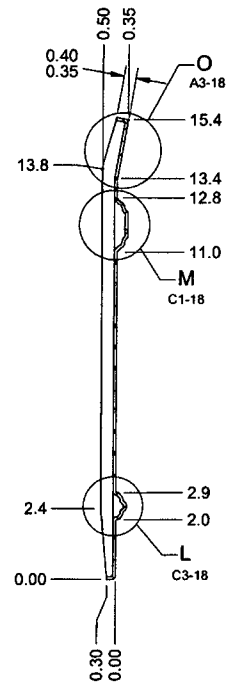
SECTION A-A
SECTION A-A' OPPOSITE
SCALE 2X

B3-13
B3-14



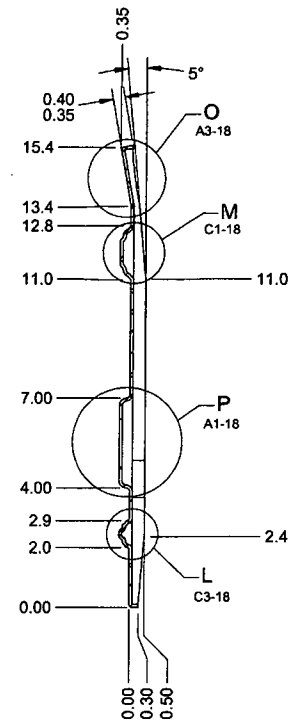
SECTION B-B
SCALE 2X

B7-13
B7-14



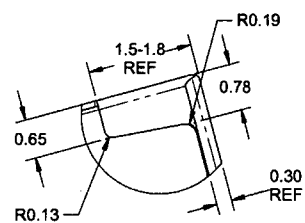
SECTION G-G
SCALE 2X

B4-15
B4-16



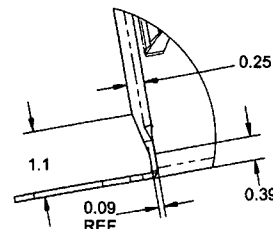
SECTION K-K
SCALE 2X

C6-16



AUXILIARY VIEW R-R
SECTION R-R' OPPOSITE
SCALE 2X

D7-17



AUXILIARY VIEW S-S
SECTION S-S' OPPOSITE
SCALE 2X

B7-17

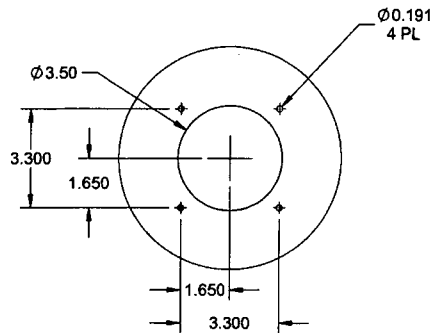
RELEASED

2015 JAN 26

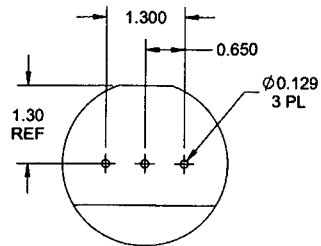
APPROVED

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AK	DRAWING NO.	REV. F
MFG. APPR.	DL	D4635	SHEET 17 OF 18
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	OUTBOARD CEILING PANELS	NTS
DATE	14.11.28	COPYRIGHT © 2012 BY DART AEROSPACE LTD	
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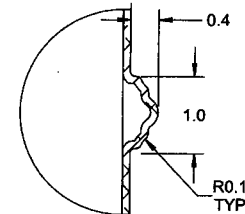
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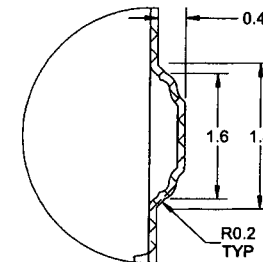
DETAIL D
SCALE 2X
B4-13
B3-14
B5-15
B5-16



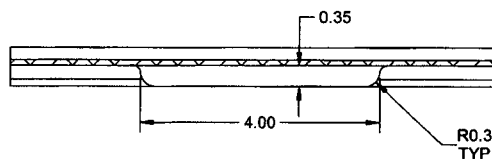
DETAIL E
SCALE 4X
C7-13
B6-14
C6-15
B5-16



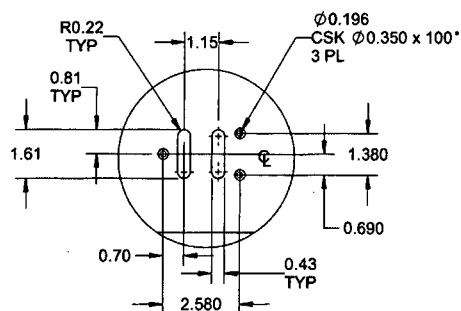
DETAIL L
SCALE 1.5X
B2-17
B4-17
C5-17
C7-17



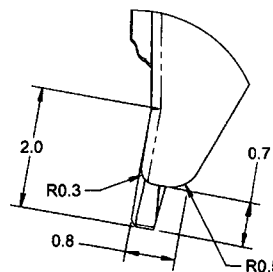
DETAIL M
SCALE 1.5X
C2-17
C3-17
C5-17
C7-17



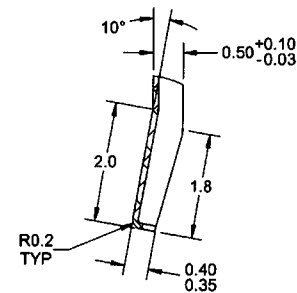
SECTION I-I
SCALE 4X
B5-16



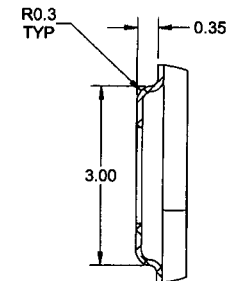
DETAIL Q
SCALE 2X
C5-16



DETAIL N
SCALE 2X
B2-13



DETAIL O
SCALE 2X
D2-17
D3-17
B5-17



DETAIL P
SCALE 4X
C2-17

RELEASED
2015 JAN 26

APPROVED

DESIGN	RF	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AK	DRAWING NO.	REV. F
MFG. APPR.	DL	D4635	SHEET 18 OF 18
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	OUTBOARD CEILING PANELS	NTS
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8 7 6 5 4 3 2 1